

Factors Influencing Green Purchase Intention among University Students

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Abstract

This paper aims to investigate the relationship between environmental concern, social influence, self-image and moderating effect of demographic factors (gender and ethnic group) on green purchase intention among university students in Kota Kinabalu. A total of 195 respondents were surveyed through the self-administered questionnaire approach. The relationship between environmental concern, social influence, self-image and green purchase intention were tested with multiple regression analysis. Meanwhile, the moderating effect of gender and ethnic group was examined using hierarchical regression analysis. The result revealed that environmental concern and self-image showed positive significant relationship toward green purchase intention. This paper suggests that more attention should be given to encourage green purchasing behaviour in Malaysia, especially among the young generation in Sabah.

Keywords: *green purchase intention, environmental concern, social influence, self-image, university students, Kota Kinabalu*

1 Introduction

Green marketing becomes a major trend in today's business world but this trend is still new in Asian countries such as Malaysia (Wahid et al., 2011). Nowadays, Asian countries become the primary target market by international marketers due to the increase of environmental awareness and the purchasing power of Asian consumers (Noor & Muhammad, 2012). Besides that, behaviour and practice of consumers as well as industry in production and marketplace has also been changed due to the increasing awareness on environmental issues (Barber et al., 2012). However, the local and international marketers are facing difficulties in developing adequate and effective marketing strategies caused by lacking of information related to the green purchase intention of the consumers in that particular country (Aman et al., 2012). Due to the lacking of experience, the green marketing strategies of Malaysia was adopted from western countries since the factors influencing green purchase behaviour in Malaysian were not identified at previous time (Shahnaei, 2012).

In the wake of the emerging of green marketing, many researches were more focused on profiling the green consumers by demographics characteristic without

investigating the factors such as environmental concern, social norms/influence and self-image. After a period, the studies on the relationship between environmental knowledge, environmental concern and green purchasing behaviour has been focused but still lacking in Malaysia (Saleki & Seyedsaleki, 2012). Meanwhile, the research finding on green purchasing behaviour might have different outcomes in different demographic contexts due to the complexity in green purchasing behaviour of consumers (Ali & Ahmad, 2012). In other words, green purchasing behaviour might be influenced by the demographic factors such as gender, ethnic group and other demographic factors. Lee (2009) suggested that female consumers have higher potential to become green consumers.

However, the study of Shahnaei (2012) and Chen and Chai (2010) indicated that there was no gender difference in green purchasing behaviour among Malaysian consumers. Previous study by Noor and Muhammad (2012) indicated that the intensity of green purchase behaviour is not encouraging among Malaysian consumers. There is only 30 per cent out of 616 respondents from Malaysia have the experience on purchasing green products. This situation shows that an additional effort is required to increase the Malaysian consumers' consumption on green products. This paper highlighted the green purchase intention among the university students as they are the powerful consumer spending group and the most lucrative segment (Mokhlis, 2009).

The objectives of this paper mainly to:

- i. determine whether environmental concern, social influence and self-image will affect green purchase intention and
- ii. to examine the moderating effect of demographic factors (gender and ethnic group) on the relationship between the independent variables (i.e. environmental concern, social influence and self-image) and green purchase intention.

2 Literature review

Green Purchasing and Green Product

Green purchasing is the behavioural factors which include environmental-friendly behaviour of the consumers (Dietz et al., 1998). Green purchasing can be defined as buying the environmental-friendly products or so-called green products. In conclusion, green purchasing can be defined as the purchase or buying of products that can reduce the environmental impact. Green product is interchangeable with the term "eco-friendly product" (Kawitkar, 2013), "environmental-friendly product" and "ecological product" (Chen & Chai, 2010). According to Chen and Chai (2010), green product is the product which has minimum impact on environment and it incorporates the strategies with recycled materials, reduced packaging and using less harmful substances.

Kawitkar (2013) defined green product as “the products which are friendly to the environment or ecology”. The author further explained that green product is the product that would not bring any harmful effect to a healthy person. Malaysia has launched its own eco-labelling schemes under Standards and Industrial Research Institute of Malaysia (SIRIM). Any organizations in Malaysia can apply when they have intention to claim and certify their product as green product under SIRIM Eco-labelling Scheme which also known as National Eco-labelling Programme of Malaysia. According to SIRIM (2011), product categories under this scheme include cleaning agents, construction or building, home appliance, home care products, lights, office supplies (not paper-specific), package container (not paper-specific), paper products or inks, personal care products, food and plants, adhesives and other product categories.

Green Purchase Intention

Green purchase intention can be defined as the willingness of an individual to consider and prefer the green product rather than conventional or traditional product in the decision making process (Aman et al., 2012; Rashid, 2009; Ali & Ahmad, 2012). Purchase intention has been an important concept in marketing literature and most companies are using purchase intention as the predictor of the sales of new products and the repeat purchases of existing products (Ali et al., 2011). According to Chan (2001), purchase intention has the great possibility to affect the purchase green product and green purchase intention as the predictor of green purchase behaviour. Green purchasing intention is also examined as an indicator of a subsequent behaviour in response to the purchase of green products (Park & Ha, 2012).

Furthermore, the purchase intention can be translated to actual purchasing behaviour on green products when the consumers believe that their effort on consumption of green products do bring positive effect (Follows & Jobbers, 2000). A number of study which studies on green purchase behaviour was focused on the theoretical relationships of attitude, intention and behaviour through the Theory of Reasoned Action (Aman et al., 2012; Ng & Paladino, 2009; Wahid et al., 2011). Aman et al. (2012) studied on the relationship between environmental knowledge, concern and green purchase intention among Malaysian consumers by using Theory of Reasoned Action. The research finding indicated that environmental knowledge and environmental concern both have significant influence on the purchase intention on green product. Besides that, the result finding also showed that attitude has partial mediating effect on the relationship between environmental concern and green purchase intention (Aman et al., 2012).

Environmental Concern

According to Alibeli and Johnson (2009), environmental concern indicates the extent to which people are aware of the environmental issues and the willingness of them to solve the environmental problems. Several authors correlated environmental concern to environmental friendly behaviour. Lee (2008) defined environmental concern as the “degree of emotional involvement in environmental issues”. Environmental concern also refers to emotional disposition of consumers such as the anger toward destruction of nature (Aman et al., 2012). In this current study, environmental concern can be referred as the emotional involvement of the consumers in environmental issues and they are aware and willing to solve those problems.

Many studies were investigated on the influence of environmental concern on green purchasing behaviour (Irawan & Darmayanti, 2012; Aman et al., 2012; Albayrak et al., 2013). According to Irawan and Darmayanti (2012), they stated that environmental concern has significant influence on green purchase behaviour among the university students in Indonesia. Albayrak et al. (2013) have conducted a research to examine the environmental concern and skepticism level of respondents with their green purchase behaviour in Turkey. The authors found out that environmental concern is the determinant of behavioural intention but skepticism has negative impact on it. Moreover, a study of Aman et al. (2012) had been conducted to examine the influence of environmental knowledge and concern on green purchasing intention on 384 Sabahan consumers. The research finding also showed that environmental concern has significance influence on the green purchasing intention. This study used attitude as the mediating variable. The authors figured out that the higher level of environmental concern has positive impact on consumers’ attitude and hence this attitude will lead to the green purchase intention.

Social Influence

Wahid et al. (2012) stated that “social influence is a proxy of subjective norm”. In other words, social influence has the same meaning with subjective norm. In addition, DeLamater and Myers (2010) stated that social influence is the changes of a person’s attitude and behaviour which influenced by another person’s action such as persuading and threatening. Besides that, Rashotte (2007) stated that social influence can be defined as “the change in an individual’s thoughts, feelings, attitudes or behaviours that results from interaction with another individual or a group.” In this current study, social influence can be referred as the change of an individual attitudes or behaviours through the influence of others. Social influence plays an important role in consumers’ purchase decision on buying green product (Ohman, 2011). Ohman (2011) supported that social pressure has an influence toward the consumers with

green purchase intention in performing the actual buying behaviour. On another side, Klobas and Clyde (2001) stated that social influence consists of friends, family, educators, employers, professional colleagues, experts and the media. Meanwhile, Maram and Kongsompong (2007) suggested that social influence consists of friends, family, associates, salespeople and even strangers.

Ooi et al. (2012) also figured out that peer pressure as a part of social influence will influence the consumers on green purchasing among Malaysian consumers. However, this study is investigated on green purchasing intention but not green purchasing behaviour among members of Activist Groups (NGO). The authors of this research suggested that the importance of word-of-mouth marketing should be stressed. Meanwhile, a study by Ohman (2011) indicated that socially desirable acts such as buying green products were motivated by social norms. The author argued that the increasing of social pressure can convert the behavioural intention into actual behaviour. A study of the Jakarta cases indicated that the social influence was the second lowest determinants on the green purchase behaviour among the university students (Irawan & Darmayanti, 2012). The author concluded that the topic of environmental issue particularly environmental-friendly products was not encouraging among the group of university students in Jakarta. Thus, social influence does not have significant effect on green purchasing behaviour. However, the author suggested that the green marketers should consider this factor because young consumers were peer oriented in nature.

Self-image

Self-image can be defined as the value of how a person perceived himself or herself (Goldsmith, 1999). Self-image can also be defined as how a person labels and describes him or herself (Werff et al., 2013). In addition, environmental self-image can be referred to “the extent to which you see yourself as a type of a person who acts environmental-friendly” (Werff et al., 2013). In this current study, self-image can be referred as the extent of an individual perceived him or her as person who acts environmental-friendly. A number of studies were conducted to examine the influence of self-image on green purchasing behaviour (Lee, 2008; Wahid et al., 2011; Irawan & Darmayanti, 2012; Barber et al., 2012). Oliver and Lee (2010) was examined the relationship between self-image congruence and the purchase intention on hybrid car among 1,083 US drivers (individualist culture) and 783 Korean drivers (collectivist culture). The research finding indicated that consumers from US and Korea had a positive relationship between self-image congruence associated with hybrid car’s purchase intention. However, US consumers had stronger intention compared to Korean consumers. The authors suggested that the marketers should understand or identify the culture of the consumers when it related to the purchase intention of hybrid car (Oliver & Lee, 2010).

Lee (2008) also figured out that concern of self-image of the consumers implied the role of social function in green purchasing behaviour of younger consumers. However, a few research finding had a contradict result with Lee (2008). According to Irawan and Darmayanti (2012), concern on self-image on environment protection did not have significant effect on green purchasing behaviour. However, the author did not discussed on the reason driven to this research finding. The research finding of Wahid et al. (2011) had shown same result with Irawan and Darmayanti (2012). Penang Green Volunteers as the respondents of the research did not engaged in green purchasing behaviours drive by self-image. The authors suggested that this finding came from the results of different respondent group. This is caused by Lee (2008)'s respondents are adolescents with the mean age of 14.35 years while Wahid et al. (2011)'s respondents are adult aged between 21 to 40 years and they are Penang Green volunteers. The adolescent consumers are focus on their own image and try to keep their good image from participate in the consumption of green products. They are in the stage of need approval and acceptance from others. On the other hand, Penang Green Volunteers as the adulthood who do not perceived self-image as the driven factors in green purchasing Wahid et al. (2011).

Gender and Ethnic Group

Gender-related studies' findings about environmental are inconclusive and the profiling of green consumer by using gender as the demographic variable is still questionable (Bui, 2005; Masouleh et al., 2013). Lee (2009) was identifying the gender difference in green purchasing behaviour among Hong Kong's adolescents. The finding indicated that female adolescent consumers showed higher environmental concern and peer influence compared to the male adolescent consumers. Meanwhile, male adolescent consumers showed higher self-image in environmental protection than the female adolescent consumers. Based on Malaysian context, a few studies had been conducted to identify gender difference in green purchasing behaviour (Shahnaei, 2012; Noor & Muhammad, 2012; Chen & Chai, 2010).

Shahnaei (2012) identified the influence of demographic characteristic such as age, education level and gender on green purchasing. The research finding showed that the higher education level has positive impact on green purchasing among Malaysian consumers. Conversely, gender has no significance influence on the purchasing of green products in Malaysian context. There were only a few studies were examining the moderating effect of ethnic group on green purchase intention. Sinnappan and Rahman (2011) examined the factors affecting green purchasing behaviours and the role of ethnic group, age, educational level, type of education and income level toward green purchasing behaviour among Malaysian consumers. The finding indicated that the role of ethnic group is not vital among Malaysian consumers in the case of green purchasing.

3 Methodology

The conceptual framework on purchasing intention of green products for this paper was adopted by Lee (2008) with the additional of demographic factors such as gender and ethnic group toward green purchase behaviours moderating variables. The Theory of Reasoned Action (TRA) was used to test the modified framework. A total number of 200 self-administered questionnaires using 5-point Likert scale were distributed to the undergraduate students of Universiti Malaysia Sabah. Non-probability sampling through convenience sampling was adopted due to its fast and efficient sampling method for collecting basic information (Aman et al., 2012). The instrument items were adopted from previous study by Kilbourne and Pickett (2008), Aman et al. (2012), Tsarenko (2013), Kongsompong et al. (2009), Hustvedt and Dickson (2009), Whitmarsh and O'Neill (2010), Lee (2008), Ooi et al. (2012) and Chairy (2012).

4 Findings

Respondent Profile

The demographic profile of the 195 respondents consists of 49 and 146 participants of both male and female respondents respectively. Most of the respondents are between the ages of 22 years to 25 years old. The ethnic group shows the highest number of Chinese participants, which consisted of 46.2 per cent, followed by Bumiputera Sabah (25.6%). Respondents who were Malay consisted of 14.9 per cent. There were also respondents who were Indian which consisted of 5.6 per cent as well as Bumiputera Sarawak.

Descriptive Analysis

The results in Table 1 indicated that the mean scores for all the variables were varied from 3.20 to 3.88. Result showed agreement in acceptance of environmental concern with mean score of 3.88 which is close to 4.00 and this indicating agreement. These findings indicated that university students in Kota Kinabalu were aware and have emotional involvement of the environmental issues. They have the willingness to solve the environmental problems. Meanwhile, social influence showed mean score of 3.20 which indicated that the university students were fairly understand that whether their attitude or behaviour would be affected by another person's action or vice versa in term of their purchasing. In addition, self-image with the mean score of 3.47 indicating agreement. The findings indicated that the university students in Kota Kinabalu perceived themselves as an environmental-friendly person. Moreover, green purchase intention with the mean score of 3.74 which close to 4.00 indicating agreement.

Table 1 Means and standard deviations of all variables

Variables	No. of Items	Mean	Standard Deviation
Environmental Concern	7	3.88	0.53
Social Influence	5	3.20	0.61
Self-image	5	3.47	0.63
Green Purchase Intention	6	3.74	0.62

Multiple Regression Analysis

Based on the multiple regression analysis on Table 3, the regression is an evidence to support the hypothesis above, with the significant level of 0.000 ($p < 0.05$). The standardized slope coefficient beta for both environmental concern and self-image are 0.473 and 0.360 respectively, indicated a relatively strongly positive relationship between environmental concern and self-image with green purchase intention. This also indicated that environmental concern and self-image have significant influence on the green purchase intention among university students in Kota Kinabalu.

Table 2 Model summary of green purchase intention

Model	R	R Square	Adjusted R Square	F	Sig (F)
1	0.706 ^a	0.498	0.490	63.211	0.000 ^a

- a. Predictors: (Constant): Independent variables (Environmental Concern, Social Influence, Self- image)
- b. Dependent Variable: Green Purchase Intention

Table 3 Regression between environmental concern, social influence, self-image and green purchase intention

Variables	Std Beta	t	Sig.
Environmental Concern	0.473	6.648	0.000
Social Influence	0.068	1.075	0.284
Self-image	0.360	5.515	0.000

Hierarchical Regression Analysis

Table 4 indicated the results of hierarchical regression analysis of the gender as a moderator on the relationship between the independent variables (i.e. environmental concern, social influence and self-image) and green purchase intention. Table 5 indicated that none of the interaction terms: i.e. (environmental concern x gender), (social influence x gender) and (self-image x gender) were significant at $p < 0.05$ significant level. The interaction of all the independent variables which are 0.809 0.386 and 0.654 respectively are not significant. As a conclusion, the demographic variable

of gender has no moderating effect on the relationship between environmental concern, social influence and self-image with green purchase intention among university students in Kota Kinabalu.

Table 4 Hierarchical regression results using gender as moderator in the relationship in the relationship between the environmental concern, social influence, self-image and green purchase intention

Independent Variables	Step 1		Step 2		Step 3	
	Std B	Sig.	Std B	Sig.	Std B	Sig.
Model Variables						
Environmental Concern	0.473	0.000	0.474	0.000	0.443	0.004
Social Influence	0.068	0.284	0.067	0.287	-0.023	0.855
Self- image	0.360	0.000	0.356	0.000	0.416	0.008
Moderating Variable						
Gender			0.061	0.405	-0.236	0.691
Interaction Terms						
Gender*Environmental Concern					0.042	0.809
Gender*Social Influence					0.126	0.386
Gender*Self-image					-0.077	0.654
R²	0.498		0.500		0.503	
R² Change	0.498		0.002		0.003	
Sig. F Change	0.000		0.405		0.806	

a. Dependent Variable: Green Purchase Intention

Table 5 demonstrated the results of hierarchical regression analysis of the ethnicity as the moderator on the relationship between the independent variables (i.e. environmental concern, social influence and self-image) and green purchase intention. The F change (in step 3) was identified as insignificant with 0.202 ($p > 0.05$). The result indicated that the ethnicity is not significantly influence the independent variables which are environmental concern, social influence and self-image on the green purchase intention. The R square was showing 49.8 per cent to 53.0 per cent with minor R square change of 0.012. The interaction of all the independent variables which are environmental concern with 0.668 ($p > 0.05$), social influence with 0.796 ($p > 0.05$) and self-image with 0.535 ($p > 0.05$) are not significant. In short, the demographic variable of ethnicity has no moderating effect on the relationship between environmental concern, social influence and self-image with green purchase intention among university students in Kota Kinabalu.

Table 5 Hierarchical regression results using ethnicity as moderator in the relationship in the relationship between the environmental concern, social influence, self-image and green purchase intention

Independent Variables	Step 1		Step 2		Step 3	
	Std B	Sig.	Std B	Sig.	Std B	Sig.
Model Variables						
Environmental Concern	0.473	0.000	0.449	0.000	0.496	0.000
Social Influence	0.068	0.284	0.054	0.384	0.024	0.871
Self- image	0.360	0.000	0.395	0.000	0.317	0.024
Moderating Variable						
Ethnic			0.181	0.005	0.226	0.001
Interaction Terms						
Ethnic*Environmental Concern					-0.020	0.668
Ethnic*Social Influence					0.012	0.796
Ethnic*Self- image					0.026	0.535
R²	0.498		0.519		0.530	
R² Change	0.498		0.020		0.012	
Sig. F Change	0.000		0.005		0.202	

a. Dependent Variable: Green Purchase Intention

5 Discussion

Firstly, this paper highlighted that there is a significant direct influence between environmental concern and green purchase intention among university student in Kota Kinabalu. This suggested that the consumers’ green purchasing behaviour is more easily triggered by an emotional appeal than a rational statement. Thus, the green marketing messages to university students in Sabah should contain more emotional appeal compared to rational appeal. For example, the advertising for green marketing may stress on the negative consequences about the environmental problem or issue to encourage the consumers to become more environmental-friendly. In addition, green values should be promoted and disseminated among Malaysian consumers through media (Murtagh et al., 2012).

In addition, this paper also suggested that there is a significant influence between self-image and green purchase intention among university students in Kota Kinabalu. This suggested that the Sabahan consumers might need to be awarded by a sense of “feeling good” about themselves for the green purchasing act (Lee, 2009). Thus, it is very important for green marketers to associate appropriate image with the green products. The design of the green product such as packaging features, labelling and quality should be congruence with the environmental-friendly or eco concepts. Green brand such as Body Shop can be established while the green marketers can promote the green attributes of the environmental-friendly products within a brand. A good

positioning strategy for the green products may enhance the consumers' perception of that brand. Moreover, higher pricing strategies can be implemented for the green products. Green campaign that stress on a sense of feeling "competent" and "in control of their lives and context" may encourage the consumers to adopt sustainable consumption (Murtagh et al., 2012). Malaysian Government should encourage and emphasize in production of environmental-friendly products by exempting duties and taxes of imported green products to attract young consumers as well as general public to buy environment-friendly products.

The results also indicated that the top predictor for green purchase intention is environmental concern. It is suggested that green purchasing recommendation may be most effectively delivered through increase of the environmental concern among Malaysian consumers. For the politicians, business organization or other NGO organization, various environmental campaigns such as "Go Green" movement should be supported to increase the level of environmental awareness or environmental concern of Malaysian consumers. Hence, the willingness of Malaysian consumers to purchase green product may increase.

This paper suggested that the future study to measure the intention as well as the actual behaviour when assessing the green purchase intention since intention may reflect actual behaviour. Meanwhile, this is a cross-sectional study due to the limitation of time horizon. To measure intention and actual behaviour, a longitudinal study is more appropriate for the future study. It is suggested that the same data to be collected at two different points of time from the same respondent to examining the relationship between intention and actual behaviour. Future study also should take into an account of a broader view of consumers in Sabah rather than just focusing on university students. Due to time constraints and limited capital, the study was done on a narrow frame of consumers. In addition, the variables taken in this study are not merely variables that affect the intent of the consumers and this open for opportunity to elevate other factors as well.

6 Conclusion

The paper has achieved the objectives to examining the influence of environmental concern, social influence and self-image on green purchase intention among university students in Kota Kinabalu and to identify the role of gender and ethnic group as moderator. The findings suggested that environmental concern and self-image had significantly influenced the green purchase intention of university students in Kota Kinabalu. Thus, the findings of the current study suggest that the more consumers concern to the environment, the more likely of their intention to purchase green product.

This concurs with Kim and Choi (2005), Aman et al., (2012) and Kilbourne and Pickett (2008) in which environmental concern was found to be positively influenced the green purchase behaviour. The two demographic factors, gender and ethnic group did not have moderating effect on the relationship between environmental concern, social influence, self-image and green purchase intention. Therefore, gender and ethnic group did not moderate or influence their intention to purchase green product. In addition, marketers should emphasize green purchase more on university students because they are the most potential and bankable customers in the future!

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